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ISRA VISION introduces a new 360° inspection solution for use in battery cell production

ISRA VISION presents PouchSTAR, its new inspection system for pouch cells, at K 2022. This system is a new addition to the company's product family for use in the production of lithium-ion batteries. With this expansion, ISRA VISION now allows manufacturers to monitor every aspect of the entire battery production process, helps them to identify problems and defects at an early stage, and thus, enables them to meet even the most stringent quality requirements.

Lithium-ion batteries for electric vehicles have to meet particularly high requirements when it comes to safety and performance. It is, therefore, crucial to monitor the entire battery cell production process in order to ensure these vehicles have a reliable power supply and can run safely. For this reason, ISRA VISION has developed an innovative turnkey solution for the inline and offline inspection of pouch battery cells, which allows processes and product quality to be comprehensively monitored.

PouchSTAR comprises the very latest LED lighting technology and a high-resolution matrix camera developed by ISRA VISION. The high-performance hardware complements an extensive software package for classifying and analyzing the visually captured data. Automatic camera calibration and the built-in GigE Vision high-speed interface make PouchSTAR incredibly easy to set up and integrate into a completely networked smart factory at full production speed.

Directly integrated into the production line, the system facilitates the 360° inspection of pouch cells. It is typically used during the cell assembly process and after degassing to detect 2D and 3D surface defects such as dents, bumps, scratches, wrinkles, and contamination caused by electrolytes, for example. The system reliably detects defects on corners and edges too. PouchSTAR also inspects the shape, size, and sealed seams of the cells.

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Another feature of this new inspection system is its ability to automatically check and document bar codes and data codes using a built-in OCR engine. This ensures that only perfect cells are supplied to customers, helping to prevent costly recalls. Thanks to this track-and-trace feature, should a problem occur, then product qualities can be traced back in order to optimize the manufacturing process.

Inspection solutions for the entire battery production process

ISRA VISION offers manufacturers of lithium-ion batteries other inspection solutions in addition to its new PouchSTAR. One example is a variation of the well-known SMASH series that is specially tailored for automatic inspection of electrode coatings, as well as separator foils and their coatings (e.g., PVDF). Over 1000 units of this advanced all-in-one solution have already been installed worldwide.

The solution delivers real-time information on product quality and shows to what extent the relevant specifications have been met. As such, it allows potential material and product defects that could compromise the quality of the end product to be detected and classified as early as the preliminary stage of battery production. In particular, its reliable inline classification, e.g., the differentiation between “black spots” and holes that appear dark, ensures maximum safety and confidence in our customers’ products. As a result, costly and time-consuming lab tests are mostly outdated.

More information on ISRA VISION's products for manufacturers of lithium-ion batteries can be found here:

[Reliable automated inline inspection in battery cell production \(isravision.com\)](https://www.isravision.com)

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PouchSTAR is a new inspection system for pouch cells from ISRA VISION that provides quality control for lithium-ion batteries. The system is directly integrated into the production line and facilitates the 360° inspection of pouch cells.

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PouchSTAR detects 2D and 3D surface defects such as dents, bumps, scratches, wrinkles, and contamination caused by electrolytes, for example, on lithium-ion battery cells. The system reliably detects defects on corners and edges too.

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